



Fiber Bragg Gratings

SPECIALTY FIBER DEVICES

Description

Designed by Bell Laboratories to precise specifications, these high resolution, low loss, in-line fiber devices function as mirrors with frequency-dependent reflectivities. Each grating consists of a permanent, periodic photo-induced index change in the core of a germano-silicate fiber.

Features

- Polarization insensitivity
- Selectable bandwidth (from 6 GHz to 3 THz) to meet a wide range of application needs.
- Low, repeatable splice loss to standard fiber (splice parameters available on request)
- High strength and reliability
- Unique patented, strain-free package to enhance wavelength stability (optional)
- ISO 9000 certified processes

Uses/Applications

Lucent Technologies offers five different optical fiber grating products for use in lightwave systems. When integrated with other components, these highly efficient fiber gratings can greatly improve system performance. They are particularly suited to pump reflector, fiber laser and laser stabilization applications. Customized fiber gratings can also be developed to meet specific customer needs.

- 980 nm stabilizer to boost the performance of laser diode pump sources for optical amplifiers.
- 980 nm and 1480 nm pump reflectors to improve optical amplifier performance.
- 1060 nm reflectors are high-reflecting mirrors designed especially for laser applications
- 1550 nm signal reflector enables selective filtering of one wavelength channel in high capacity, multi-wavelength optical systems.

Optical Specifications

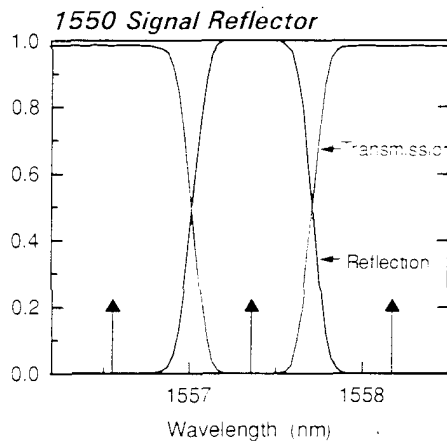
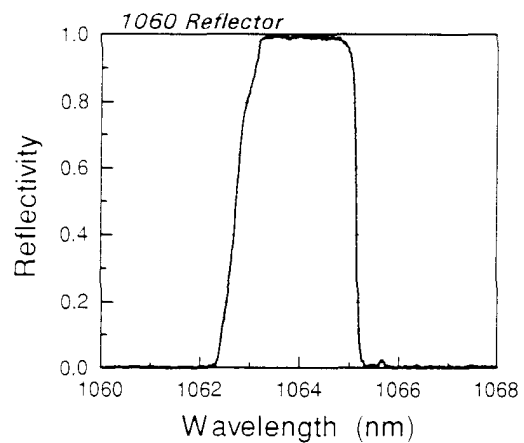
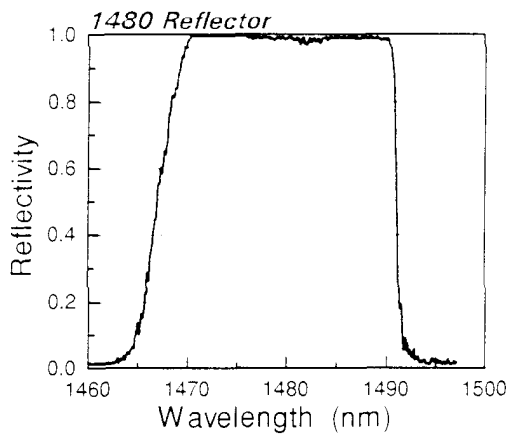
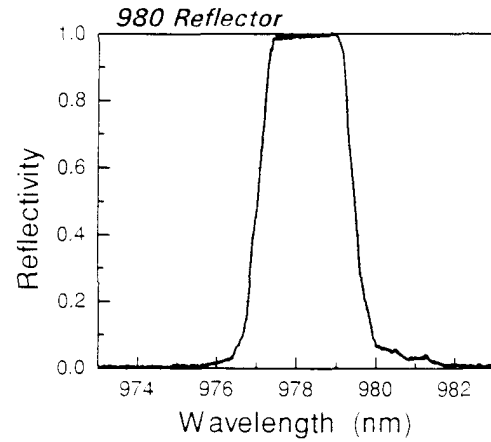
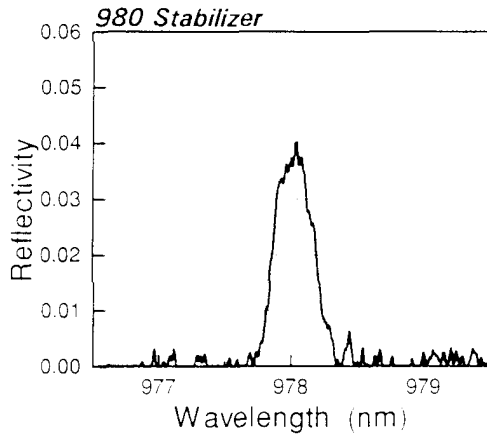
The following chart summarizes typical specifications for fiber gratings currently available

Description	λ_B (nm) Center Wavelength	R (%) Reflectivity	FWHM (nm) Full Width Half Maximum	COMCODE
980 Stabilizer	978	3 - 5	0.3 - 0.5	107 743 999
980 Pump Reflector	978	>99	2	107 744 005
1060 Reflector	1060	>99	2	107 744 013
1480 Pump Reflector	1480	>99	20	107 744 021
1550 Signal Reflector *	**	>99	> 0.4	107 770 919

* see Optical Add-Drop Grating Filter data sheet for additional details

** 192.3 THz - 193.7 THz ITU channels available

Typical Performance Data



Physical Characteristics

Fiber Diameter	125±2 μ m
Coating Diameter	250±15 μ m
Core Eccentricity	<0.3 μ m
Proof Test	>100 kpsi
Temp. Sensitivity	<0.012nm/°C

Ordering Information

When ordering, please specify:

Comcode and quantity

Pigtail fiber type (additional charge may apply)

For more information or for technical assistance, please contact the Specialty Fiber Devices group at:

	<u>U.S. location</u>	<u>Denmark location</u>
Phone:	1-800-364-6404	(+45) 4345 8888
Fax:	(908)582-2422	(+45) 4345 5373

